

WHAT IS CLAIMED IS:

1. An array substrate for a liquid crystal display device, comprising:

a substrate having a non-display region and a display region;

a plurality of gate and data lines crossing each other on the substrate;

a gate electrode connected to one of said gate lines;

a gate insulating layer on the gate line and the gate electrode;

an active layer on the gate insulating layer over the gate electrode;

an ohmic contact layer on the active layer;

source and drain electrodes spaced apart from each other on the ohmic contact layer;

a pixel electrode connected to the drain electrode and contacting the gate insulating layer;

an alignment layer on the pixel electrode;

gate and data pads defined as an end portion of the gate and data lines, respectively, said gate and data pads positioned at the non-display region; and

gate and data pad terminals on the gate and data pads, respectively.
2. The array substrate according to claim 1, wherein the data pad terminal extends to the display region.
3. The array substrate according to claim 1, wherein a data pad terminal comprises the same material as the pixel electrode.
4. The array substrate according to claim 1, wherein the alignment layer comprises polyimide.

5. A manufacturing method of an array substrate for a liquid crystal display device, comprising:

forming a gate electrode on a substrate having a display region and a non-display region;

forming a gate insulating layer on the gate electrode;

forming an active and an ohmic contact layer on the gate insulating layer over the gate electrode;

forming source and drain electrodes;

forming a pixel electrode contacting the drain electrode on the gate insulating layer;

forming an alignment layer on the pixel electrode and the source and drain electrodes;

forming a data line connected to the source electrode and having a data pad at the non-display region; and

forming a data pad terminal contacting the data pad.

6. The method according to claim 5, wherein the data pad terminal and the pixel electrode are formed at the same time.

7. The method according to claim 5, wherein the data pad terminal has the same material as the pixel electrode.

8. The method according to claim 5, wherein the data pad terminal extends to the display region.

9. The method according to claim 5, wherein at least one of the electrodes is formed by a dry etching method.

10. The method according to claim 5, wherein at least one of the electrodes is formed by a photolithography method using a photoresist.

11. The method according to claim 10, wherein the photoresist used in the photolithography is removed by a dry strip method.

12. The method according to claim 11, wherein said dry strip method uses dry gases, and wherein said dry gases include O_2 as a base gas and SF_6 or CF_4 as a reactive gas.

13. The method according to claim 5, wherein the ohmic contact layer is formed by a photolithography method using a photoresist.

14. The method according to claim 12, wherein the photoresist used in the photolithography is removed by a dry strip method.

15. The method according to claim 14, wherein said upper surface of the ohmic contact layer is etched to a depth between about 100 and about 700 Angstroms.

16. The method according to claim 15, wherein a thickness of the ohmic contact layer before etching is between about 400 and about 1,000 Angstroms.

17. The method according to claim 5, wherein the alignment layer is formed by a printing method.

18. A method of manufacturing an array substrate for a liquid crystal display device comprising:

forming a thin film transistor having a gate electrode, source and drain electrodes, an active layer, and an ohmic contact layer;

forming a pixel electrode contacting the drain electrode;

wherein the formation of at least one of the electrodes, the active layer, and the ohmic contact layer are processed by a photolithography method using photoresists; and
wherein one of the photoresists used in the formation is removed by a dry strip method using dry gases.

19. The method according to claim 18, wherein the dry gases used in the dry strip include O_2 as a base gas and SF_6 or CF_4 as a reactive gas.

20. The method according to claim 18, wherein an upper surface of the ohmic contact layer is etched after the dry strip method.

21. The method according to claim 20, wherein the upper surface of the ohmic contact layer is etched to a depth of between 100 and 700 Angstroms.

22. The method according to claim 21, wherein a thickness of the ohmic contact layer before etching is between about 400 and about 1,000 Angstroms.